

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (currently amended) Vibration and displacement damper, comprising:

a plunger piston (10) sliding inside a guiding cylinder (20) in a longitudinal direction (30),

the plunger piston comprising, over a part of a length of said plunger piston, a piston ring (12) sliding with a slight clearance inside a main chamber (13) provided in said cylinder,

said piston ring comprising calibrated through-orifices (14) for a high-viscosity fluid, such that the variations in ambient temperature have little effect on damping efficiency, the fluid filling said chamber on both sides of said piston ring,

said cylinder comprising, on either side of said main chamber (13) in the longitudinal direction, two secondary chambers (15, 16) that the plunger ~~pistons~~ piston enters,

said secondary chambers being filled, at least in part, by said high-viscosity fluid and comprising limiting means (19, 21) for limiting the passage or leakage of fluid from the main chamber toward the secondary chambers, and for facilitating the leakage of fluid from at least one of the secondary chambers toward the main chamber,

wherein said fluid has a viscosity greater than 500cSt,  
wherein the damper comprises a conduit (27) provided in  
the piston and opening (28, 29) into each of the secondary  
chambers (15, 16),

wherein the damper further comprises at least one  
through-path (17, 18) provided in the cylinder in which is  
inserted limiting means (19, 21) for limiting the passage or  
leakage of fluid from said main chamber toward the secondary  
chambers, and

wherein one of the secondary chambers ~~contains an air~~  
~~volume (31) and is connected (27, 28, 29, 33) to the other~~  
~~secondary chamber, such that the high viscosity fluid may~~  
~~circulate freely between the two secondary chambers (16)~~  
communicates with a complementary chamber (24) via at least two  
holes (25), which complementary chamber (24) contains an air  
volume (31) and is connected (27; 28; 29; 33) to the other  
secondary chamber (15) such that the high viscosity fluid  
circulates freely between the two secondary chambers (15, 16).

2-5. (cancelled)

6. (previously presented) Damper according to claim 1,  
wherein said plunger piston (10) is made from chromium-plated  
steel, treated in order to harden it at the surface, and is  
guided into said cylinder (20) on bronze bearings.

7-8. (canceled)

9. (previously presented) Assembly comprising a damper according to claim 1, a vibration-damping cable and a structure to which the cable is attached, wherein the plunger piston and the cylinder are respectively connected, on the one hand, to the cable and, on the other hand, to the structure to which the cable is attached.

10-14. (cancelled)

15. (currently amended) Damper according to claim [[2]] 1, wherein said plunger piston (10) is made from chromium-plated steel, treated in order to harden it at the surface, and is guided into said cylinder (20) on bronze bearings.

16-20. (cancelled)

21. (currently amended) A damper according to claim 1, wherein, said limiting means (19, 21) for limiting the passage or leakage of fluid from said main chamber toward said secondary chambers are inserted to limit leakage from said main chamber (13) toward said secondary chambers (15, 16) and to facilitate leakage from said secondary chambers toward said main chamber.

22. (currently amended) A damper according to claim [[21]] 1, wherein, said limiting means (19, 21) for limiting the passage or leakage of fluid from said main chamber to said secondary chambers are non-return valves.

23. (currently amended) A damper according to claim 1, wherein, said damper absorbs stresses ~~up~~ in a range from 1 kN to 1000 kN.

24. (new) A damper according to claim 1, wherein the conduit (27) opens at the free end (28) of the rod (26) into the secondary chamber (15).

25. (new) A damper according to claim 1, wherein said damper is configured to be fitted substantially horizontally.

26. (new) A damper according to claim 1, wherein the air volume (31) is in contact with the high viscosity fluid in the complementary chamber (24).

27. (new) A damper according to claim 1, wherein,  
the complementary chamber (24) has a longest longitudinal dimension in the longitudinal direction,  
in use, the air volume (31) has a longest longitudinal dimension in the longitudinal direction, and

the air volume (31) occupies an upper part of the complementary chamber (24).

28. (new) A vibration and displacement damper, comprising:

a guiding cylinder (20) with a length defining a longitudinal direction (30) and having a first end and a second end;

a main chamber (13) within the guiding cylinder;

a first secondary chamber (15) within the guiding cylinder and located towards the first end of the guiding cylinder;

a second secondary chamber (16) within the guiding cylinder and located towards the second end of the guiding cylinder, the main chamber being located intermediate the first and second secondary chambers;

a plunger piston (10) sliding, in the longitudinal direction (30), inside the guiding cylinder (20) including inside the main and secondary chambers (13, 15, 16);

a fluid with a viscosity of at least 500cSt, the fluid filling, at least in part, an inside of the secondary chambers and in fluid communication between the guiding cylinder and inside the guiding cylinder (20) and the main and secondary chambers (13, 15, 16);

a piston ring (12) located over a part of a length of the plunger piston (10), the piston ring (12) sliding inside the main chamber (13);

through-orifices (14) located within the piston ring and allowing the fluid to move from one side of the piston ring to another side of the piston ring, the fluid filling the main chamber on both sides of the piston ring;

through-paths (17, 18) connecting each of the secondary chambers to the main chamber;

limiting elements (19, 21) inserted in the through-paths and limiting passage of the fluid from the main chamber toward the secondary chambers and facilitating leakage of the fluid from at least one of the secondary chambers towards the main chamber;

a conduit (27) provided in the piston and opening (28, 29) into both the first and second secondary chambers (15, 16);

a complementary chamber (24) extending along longitudinal direction (30) and located exterior to the second secondary chamber (16); and

at least two holes (25) connecting the second secondary chamber to the complementary chamber, the complementary chamber (24) containing an air volume (31) and connecting (27; 28; 29; 33) to the first secondary chamber (15) such that the fluid circulates freely between the two secondary chambers (15, 16).

29. (new) A damper according to claim 28, wherein said damper is configured to be fitted substantially horizontally.

30. (new) A damper according to claim 28, wherein the air volume (31) is in contact with the fluid in the complementary chamber (24).

31. (new) A damper according to claim 28, wherein,  
the complementary chamber (24) has a longest longitudinal dimension in the longitudinal direction,

in use, the air volume (31) has a longest longitudinal dimension in the longitudinal direction, and

the air volume (31) occupies an upper part of the complementary chamber (24).